Data Center Modernization

This project will modernize the data centers at Headquarters, Ross and Munro by migrating to a modern, compact and efficient server/chassis installation. The new hardware will be accompanied by software and tools that provide system monitoring, database configuration, server administration and production process modeling. The result will be a more cost effective and efficient approach to providing the infrastructure to support computer applications at BPA.

This project continues the efforts of the 2005 enterprise process improvement project (EPIP). The EPIP identified the need to make improvements in the way the agency delivered computer applications. Prior to the EPIP, the agency had an installed server base of about 1,047 units. Through the EPIP process, the number of servers has been reduced to around 960 units today (while accommodating increased requirements). This project is expected to further reduce the number of servers by an estimated 25 percent. The project will also deliver increased efficiency and reliability while reducing the life-cycle costs of IT systems. The project will also deliver a "greener" data center through reduced power consumption and more efficient space utilization. In addition to installing modern and efficient hardware, the project will install system monitoring for all systems, re-design the support processes and establish key performance indicators and service level agreements to ensure continued discipline in server management once the project is complete.

This project will also change the way that BPA meets its data storage requirements. In recent years, the agency's data storage infrastructure has come under increasing pressure as new systems and processes require more and more storage capacity. Currently, data storage space utilization is growing at a rate of 1.8 terabytes per month. Historically, this growth has been managed by adding additional storage hardware, while replacing existing hardware as it reaches the end of its useful life. The result of this approach has been a constant increase in costs accompanied by a gradual decline in performance and reliability.

The objectives of this project are to increase storage reliability and availability, improve performance and manage storage growth in a disciplined and proactive manner. Additionally, this project will reduce costs, free-up existing storage for re-allocation and utilize cheaper forms of storage for less frequently needed items. As a result of the project, electrical, cooling, and hardware space needs will be reduced.

This capital investment will be made *instead* of the normal additions and replacements of data center and storage hardware. Overall, this project will result in lower capital investment requirements and lower expenses than would have been experienced had the agency continued with the current approach.